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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 14

Application Number: 09/379,092
Filing Date: August 23, 1999
Appellant(s): MOULI, CHANDRA V.

Timothy Trop
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 18, 2001.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences, which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 1-3, 5-7, 33 and 35-39 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

6,030,882	Hong	2-2000
6,127,242	Batra et al.	10-2000

Wolf et al. "Silicon Processing for VLSI Era", Vol. 1 (1986), pp. 213-215

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-3, 7, 33, 35 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Hong (US 6,030,882).

Hong discloses the steps of:

forming a region, (208, fig. 2B) containing oxidation enhancing impurities, using ion implantation at energies below 20 keV, in a semiconductor structure, and

making a trench (208a and 210, fig. 2C) through said region, leaving a portion of said region around said trench (col. 3, line 55 – col. 4, line 12).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-6 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong (US 6,030,882).

Hong fails to disclose some or all the limitations of 5-6 and 36-38. However, the examiner takes Official Notice that argon or oxygen is art equivalent elements that can be used to form oxygen enhanced region. Therefore the limitations of claims 5-6 and 36-38 add nothing, that is not already known in the art, to the claims.

The examiner cites Batra et al. (US 6,127,242) column 2, lines 58-67, discloses implanting oxygen as an oxidation enhancement and applicant states, in paper no. 8, page 3, final paragraph, that the oxidation enhancing effects of argon are known, these references are cited as pursuant to the rules when the official notice is taken. Therefore one of ordinary skill in the art would recognize argon or oxygen as art equivalent dopant used to form oxygen enhanced regions.

(11) Response to Argument

The appellant argues that the Hong reference does not disclose "... implanting impurities that enhance the oxidation of said structure beyond that which would be expected from crystallographic damage effects.


The Hong reference is disclosing, column 2, lines 60-62, that a doped region provides for oxidation-enhanced region into the semiconductor structure. It is well known in the art and inherent that the doping of a region or area of a semiconductor structure enhances the oxidation rate of the semiconductor structure; whether the impurities are applied to the structure by diffusion, ex: from a solid source, or implantation. It is the burden of the appellant to show that the oxidation enhancement is

not caused by the impurities in the doped region, see In re Best 195 USPQ 430, 433n.4 (CCPA 1977)

Also, Hong, like the appellant, implants oxidation enhancing impurities into the semiconductor structure. Therefore, similar results would result. For the above reasons, it is believed that the rejections should be sustained

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Respectfully submitted,


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January 24, 2002

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